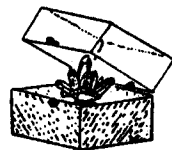


BRITISH MICROMOUNT SOCIETY



NEWSLETTER No.12

NOVEMBER 1984

Some sixty seven members attended the Third Symposium at Leicester University. Like a well-rehearsed military operation, they moved into the Department of Geology with microscopes and boxes of specimens as soon as the doors opened, and there was an immediate buzz of friendly greetings and offers of help. A summary of events is reported later, and the weekend was a resounding success due to the excellent organisation, a succession of knowledgeable speakers and an abundance of good fellowship. Only during the Annual General Meeting were voices raised as so many constructive points were made in arguments leading to the approval of the Constitution and other Society matters. These have been formally recorded in the Minutes which are reproduced in full below.

MINUTES OF THE FIRST ANNUAL GENERAL MEETING OF THE BRITISH MICROMOUNT SOCIETY

held on Sunday 30th September 1984 at 2.30pm at Leicester University during the Society's week-and-Symposium. There were 67 members present (plus 2 visitors from Holland who had no vote). Roy Starkey chaired the Meeting.

1. CONSTITUTION

The Chairman read the Draft Constitution to members, each rule being discussed and amended as necessary. Trevor Bridges then proposed the adoption of the Draft Constitution and Mike Smith seconded the proposal. It was unanimously voted by members present that the Draft Constitution become the Constitution of the British Micromount Society.

2. ELECTION OF OFFICERS

The following names were put before the members:

CHAIRMAN	- Roy Starkey	Proposed by Trevor Bridges Seconded by David Middleton
SECRETARY	- Eileen Hansford	Proposed by Martin Stolworthy Seconded by Maureen Edwards
MEMBERSHIP SECRETARY - AND TREASURER	- Neil Hubbard	Proposed by Mike Leppington Seconded by John Betterton

The above officers were elected unanimously by members present.

2.1 The following members were then co-opted to perform various duties within the Society:

NEWSLETTER EDITOR	- Eric Otty	Proposed by Trevor Bridges Seconded by Neil Hubbard
DIRECTORY EDITOR	- MertIn Stolworthy	Proposed by Richard Belson Seconded by Trevor Wolloxall
SYMPOSIUM ORGANISER	- Mike Rothwell	Proposed by Richard Bell Seconded by Martin Stolworthy
FIELD TRIP ORGANISER 1985 (In the South)	- David Ifold	
AUDITOR	- Mike Leppington	Proposed by Trevor Bridges Seconded by Peter Braithwaite

The above co-opted members were unanimously elected by members present.

3. FEES

It was agreed after discussion; with guidance from the Chairman, that fees would remain at £3.00 per member for Ordinary Members and £4.50 for Family Members (under 18's not included) where there is one Ordinary Member in the family.

4. MEMBERSHIP

The Chairman put to the meeting whether membership should be restricted to preserve its present form. There were various views for and against. Peter Braithwaite questioned the need to have restriction on membership as the possibility of regional branches of the B.M.S would take pressure off the Society. Trevor Bridges pointed out that restricted membership would make for a stagnant Society especially as older members dropped out or died off. Others wished to restrict membership to preserve the unique friendliness that the Society had achieved. It was generally agreed the topic was an emotive one but that no restriction be applied, at least for the coming year.

5. SYMPOSIUM

The Chairman then asked the meeting whether members attending the Symposium should be restricted due to overcrowding of the venue. After discussion it was generally agreed not to restrict numbers attending but that a closing date for application to the Symposium should be imposed and applications after that date should not be entertained. It was decided that the closing date for applications would be August 31st each year.

It was also agreed that if the numbers were larger in 1985, perhaps a parallel programme be run to relieve pressure in lecture hall. There was a general feeling more space was needed.

The date for the next Symposium is September 28th and 29th 1985 at Leicester University.

6. FIELD MEETINGS

In discussing the venue for the 1985 field trip meeting it was suggested that 2 meetings could be held at the same time, one in the north and one in the south. David Ifold to organise a field meeting in Devon or Cornwall and that a volunteer step

forward to organise a northern field meeting. It was agreed the date for the 1985 field meeting(s) should be the May Bank holiday weekend, 6th, 7th and 8th May. It was asked that a meeting hall or back room of a pub should be booked to enable members to gather together at the end of each day, after collecting, for a social evening. This request was heeded and would be acted upon.

7. ANY OTHER BUSINESS

Peter Reynolds asked that fully mounted micromounts should be put on display at the Symposium. Members then aired their views on what they would like to see. Roy Starkey suggested a Library of micros for reference purposes. Members agreed to donate specimens. Mike Smith and Peter Reynolds spoke up in favour of this.

Jean Spence asked if members living in, around, or near the Derbyshire, South Penines areas would be interested in forming a Northern Branch of the B.M.S. and if so, to contact her.

Doug Morgan suggested the use of a microphone at lectures, as it is hard to hear at the rear of the lecture room, especially if Lecturers were not facing the audience. Jean Spence upheld this suggestion.

Rex Bingham also mentioned the Slide projector noise is objectionable to those sitting near it.

It was agreed to look into these problems.

Doug Morgan asked that the Auction next year should include micromounts as well as hand specimens.

8. David Middleton proposed a vote of thanks to Roy Starkey.

9. There being no other business the meeting closed at 2.40pm.

E HANSFORD

Secretary

LETTER FROM THE CHAIRMAN

Firstly I would like to express my gratitude to all who participated so positively at the debates in Leicester. It was evident from all of the contributions, that the Society IS strong, IS democratic and above all shows a single minded determination to move forward and face up to the challenges ahead.

Amongst the various letters and comments received after the Symposium, I would like to quote from just one, which sums it all up 'The Society really is fantastic just as it is, just enough members who don't meet frequently enough to fall out. Words really can't express the enjoyment we all get out of the weekend. I agree personally with all the limitations discussed, as I have seen too many ventures fold up through becoming too big and impersonal!'

The message is the same whoever you talk to - we like what we've got, and we want to keep it that way!

The willingness with which people came forward to volunteer support was not unexpected, and typifies all which makes the BMS strong and active. A major step has now been taken to put the Society on a constitutional footing, and to all those who have been elected to office I extend my thanks and support. As time passes, control of the Society's activities will no

doubt become increasingly de-centralised, and this is healthy and will allow more people to participate directly in shaping the future.

To all of you I wish a very happy Christmas, and prosperous New Year, with many interesting finds. Please support Eric by flooding him with contributions for the newsletter as you have done me in the past. 1985 promises to be a very exciting year for the Society and I look forward to seeing you all again very soon.

ROY STARKEY

OVERSEAS NEWS

The September newsletter of the Canadian Micro Mineral Association carries an interesting article on greenockite, the hexagonal cadmium sulphide named after Lord Greenock. It records that the first and largest ($\frac{1}{2}$ " crystal was found in Scotland in 1810 and many fine micro crystals have been found at Renfrew in the labradorite porphyry where it occurs with natrolite and calcite on prehnite. Very sharp hemimorphic crystals have been found at Paterson and Prospect Park, New Jersey and the Tintic district, Utah. Fine red crystals have been found, and may be found again during future construction about 12 miles south of Paterson in the Watchung Mountains basalt. A 400ft. service cut under route 78 to the Summit-Springfield quarry exposed a considerable amount of basalt containing albite, prehnite, chalcocite, chalcopyrite and many sharp clear hexagonal crystals of greenockite.

The October newsletter of the South African Micromount Society reviews activities over the ten-year life of the Society noting that a hardcore of membership had remained, that the field trips had been well-attended and since 1977 the one-day workshops had been very popular. The Society had also provided a popular service in the bulk purchasing of books, minerals and other materials for members, and the mass swaps with clubs in other countries were also popular. In order to establish the official status of slag minerals, one of the members had approached South Africa's I.M.A. representative and had received the following reply:

"Until recently, inorganic compounds forming as a result of natural processes on rejected slag material have reluctantly been acknowledged as mineral species, because arguably, they conform to the currently accepted definition of a mineral. However, a proposal has been put before the IMA to alter the definition of a mineral to include the phrase..... ".....formed without human intervention." I am informed that this is almost certain to be implemented in the very near future. In this event the situation will be clear - crystals developing on slag could no longer be accepted as minerals."

SOUTH EAST BRANCH NEWS

EISIE HANSFORD

Some 18 members attended the August meeting, including five new faces, and a steady flow of cool refreshments helped to tame a very hot afternoon. There was great interest in the presentation of colour slides, and Steve Rust explained how he used daylight film with the sun as a light source to obtain well-balanced colours. Just set up the microscope outdoors or indoors with the sun lighting the specimen!!

Forthcoming events were discussed and at the November meeting there will be practical demonstrations of mounting micros and an examination of the various types of rock splitters/trimmers which members are asked to bring along.

ROCK TRIMMERS FOR SALE

KEITH SNELL

Keith has a small number of rock trimmers for sale, similar in design to that recommended in "The Complete Guide to Micromounts" by L M Speckels page 46 fig. 9.5. They are well made, constructed entirely of steel and fitted with high quality tool steel blades, hardened

and tempered to a degree most suitable for rock cutting. These blades are removable for subsequent sharpening or replacement if required. Blades could also be supplied to one's own design at low cost. The dimensions of the trimmer are: height 10½", base 4½" x 4", weight 5½ lbs. The price of the trimmer is £20.00 net, postage and packing £2.50 making a total of £22.50 if posted. Please contact Keith at 13 Greenbank Avenue, Maghull, Merseyside L31 2JG.

LEADHILLS WULFENITE

KEMP MEIKLE

On a very wet and misty July day in Leadhills, Kemp set out to find the dumps on Broad Law where Steve Rust had reported finding Wulfenite. The three old dumps on the shoulder of Broad Law above the wood proved to be barren but the intrepid Kemp battled on..... "In the mist, locating the dumps was difficult but a surprising distance over the hillside towards the Elvanfoot road, I did find them overlooking the house of Kenny Wilson, the Headkeeper. The afternoon was then well through but the rain was letting up and I was able to concentrate on searching for signs of fairly recent excavations. This was rewarded by recovery of several interesting looking pieces from the most north large dump about the 1500 ft. contour level. Close examination at home subsequently produced several specimens with fine wulfenite which made the trip and ensuing discomfort all well worthwhile. The wulfenite occurs as bright orange-yellow to orange-red sharp crystals varying from 0.10 to 0.60mm in maximum dimension, either as sharply terminated or truncated bipyramids with growth lines prominent on faces. Occasionally the truncations are such as to give the crystals the appearance of tablets or twinned-tablets. Generally speaking, the wulfenite is associated with bright-yellow to orange acicular and/or prismatic pyromorphite (or Mimetite?). In some cases straw-yellow bipyramids occur on/in medium to light-green pyromorphite and in two cases wulfenite crystals occur alone on a fracture face of grey quartz-impregnated schistose rock (greywacke). On one specimen 53 small individual crystals occur over an area of about 10 x 17mm while another specimen has 32 crystals. All in all, very well worth getting soaked for!

Anyone intending to visit is warned that prior permission must be obtained from the Estate. The Headkeeper will probably O.K. individuals or parties of two or three on his own, otherwise a formal approach to the Factor may be necessary. The dump is located at about the intersection of the Raik Vein with the Broad Law Vein."

MACPHERSONITE

(Condensed from "Mineralogical Magazine", June 1984
Vol. 48 pp 277-82)

Within the Huddle collection at the Royal Scottish Museum, a small quartz specimen approx. 2 x 4 x 5cm from Leadhills had bore the label "Leadhillite? Anglesite?". In order to resolve the dilemma an X-ray powder photograph of the mineral in question, which in colour and morphology neither resembles leadhillite nor anglesite, became essential. It turned out to be a new mineral, a polymorph of leadhillite and süssanite. During the closing stages of the IMA deliberations, the same mineral was collected by Passaqui of Dijon from the Argentolite mine in France and submitted to the Natural History Museum in Geneva.

This mineral is now officially named after Dr Harry Macpherson, Keeper of Minerals at the Royal Scottish Museum. Macphersonite from Leadhills is very pale amber en masse though colourless in thin flakes. The lustre is adamantine on fresh surfaces and the fracture is uneven. It dissolves completely in dilute acid, leaving a curdy white precipitate of PbSO₄ from nitric acid. Cleavage is perfect on 010 and the mineral is tabular on b. A very strong, vivid fluorescent under long and short UV is displayed by the Leadhills macphersonite. It is optically - with 2V of 35° and r.l. of 1.87, 1.98, 2.0. It can occur together with both leadhillite and süssanite. A final point of interest is that it contains minor Cu and Cd (trace only) which are absent in leadhillite and süssanite. The chemical formula is Pb₄(SO₄)(CO₃)₂(OH)₂.

DISCOUNT OFFER

SimKey Minerals are offering a 10% discount to BMS members because of the disadvantageous exchange rate. List available from Rodney Lee, 942 Chevrolet St, Oshawa, Ontario L1G 4H8 tel:(616) 728-4727.

BOOK REVIEWS

"The MacDonald Encyclopedia of Rocks and Minerals"

by A Mottana, R Crespi and G Liborio (Italy), translated and published in 1983 by MacDonalds. Softback 7½" x 4½". 607 pp. Price £6.95

This book contains many pleasing colour photographs and good line diagrams, many in multi-colours to aid presentation, and particularly useful crystal structure diagrams. In general terms it is yet another encyclopedia but there are a number of features which give it one distinction of its own. The introductory chapters on crystallography and crystal chemistry strike a rather nice balance between the basic levels for the beginner and the more advanced concepts for the professional or academic. Most of the physical properties have brief references, and the classification system used is explained.

The illustrations and descriptive matter about the minerals are informative and reasonably presented, but not out of the ordinary. However, the final section of the book on rocks adds considerably to the overall interest for those who tend to concentrate on minerals. This section includes notes on origin, appearance and uses. In some cases the colour photos of the rocks are enhanced by very attractive plates of thin sections under polarised light. Criticisms are minor; the mineral pie-charts depicting rarity and very superficial treatment of some aspects; but at around one penny per page it must be rated as good value.

Reviewed by GEOFF DEVERELL

Geoff would like to hear from anyone with copies of "The Mineralogist" or "Rocks and Minerals".

"Silver - UK Mineral Resources Consultative Committee Mineral Dossier No. 25."

Published in 1983 by H.M.S.O. 108pp. Price £10.50

This detailed account of silver production and consumption in the UK reveals that between 1851 and 1950 some 800 tonnes was mined, practically all from argentiferous galena. In earlier periods argentite had been found at Alva mine near Stirling and filliform native silver had been discovered at Hilderston near Bathgate, Lothian region. Pyrargite was also recorded at Tyndrum. Proustite pyrargite and polybasite had occurred in several parts of Cornwall while the rare stephanite had been found at Wheal Ludcott. Silver was the main product at Penan Silver, North Dolcoath, Silver Vein (Lostwithiel) and Brothers and Sisters mines in the South West. Very low grade deposits have been outlined in a copper-zinc-tin orebody in the Redmoor mine area of Cornwall.

Mine production of silver is now very small and over the last decade has not exceeded 4 tonnes annually. In contrast, consumption of silver in the UK exceeds 600 tonnes, the shortfall coming from imports and recycling. Nowadays silver is more typically associated with copper and tin production and the most active producer is the Wheal Jane mine in Cornwall. Processing of imported silver-containing materials is a substantial industry in Britain, with photographic materials and electrical scrap being most important sources. This book which is obtainable through the County Library Service, contains a great deal of statistic information relating to the individual mines which have produced argentiferous galena and the yields.

ERIC OTTY

"International Directory of Micromounters - 12th Edition"

This excellent publication has just arrived from the USA - price \$3.00 US from Baltimore Mineral Society, 2909 Woodvalley drive, Baltimore, Maryland 21208.

Totalling fifty pages and listing micromounters and dealers/suppliers from 18 different countries around the world, it is essential reading for the international collector. Over 1500 collectors are listed and contact addresses for overseas clubs are given. The latter can be invaluable if you are trying to contact fellow enthusiasts whilst on holiday abroad.

ROY STARKEY

B.M.S. NATIONAL REFERENCE COLLECTION

It has been decided to establish a National Reference Collection of micromounts for the education and use of members. In the future it is envisaged that material will be available on loan for research and study purposes, both to members and other mineralogists alike. The collection will concentrate on British species and locally suites. An Index will be compiled giving details of all catalogued specimens.

It is hoped that all members will wish to contribute material to the collection, and the following notes are issued for the guidance of intending donors.

1. Specimens must be of well crystallised, clean, high quality material.
2. Specimens should be supplied in a ready-trimmed state preferably 'blu-tacked' onto a small square of white cardboard 1" x 1".
3. On a separate piece of card or paper 3" x 5" please give the following details. (Separate piece of paper for each specimen please.) **PLEASE PRINT CLEARLY**

NAME OF SPECIES; LOCALITY - including name of Mine/Gry, nearest town, and County; Six figure National Grid Reference;
DATE COLLECTED;
HOW IDENTIFIED i.e. visual, wet chemistry, X-ray confirmed etc.
NAME OF DONOR.

Material for the collection should be posted in the first instance to Roy Starkey, 29 Painwick Close, Redditch, Worcs B98 7XU, and can be sent at any time. Please ensure that you package material safely. All donations will be acknowledged in newsletters. It will not be possible to acknowledge receipt of specimens individually.

Listed, is an initial target suite of British species, many of which are readily available amongst the membership. If everyone provided two different species we would achieve this at the first attempt. As time passes, request for specific material will be published in newsletters to enable completion of locality sets etc.

Please look through the list and select a couple of really good specimens from your stock of material. The collection is a very worthwhile project, and will grow to become a very important national reference set. It is essential that we curate the material in a professional manner, so please take particular care when supplying details as in (3) above - we must get details right first time. If you are uncertain about the identification of a specimen, PLEASE say so. We can get this checked. Erroneous identifications and/or localities will devalue the standing of the collection in years to come.

Once the collection is established it is hoped that you will think of the Society first when you have interesting duplicates, and if we all send in 2 or 3 specimens a year, after the field season, we shall rapidly approach, and pass the 1000 mark.

Eventually, a postal loan system for material is envisaged, but details of how this would operate will be decided at a later date, possibly at the 1985 Symposium.

- | | | |
|---------------------|--------------------|-----------------------|
| 1. ACTINOLITE | 57. CRONSTEDITE | 113. MINIMUM |
| 2. ADAMITE | 58. CUMENGETITE | 114. MIXITE |
| 3. ALBITE | 59. CUPRITE | 115. MOLYBDENITE |
| 4. ALSTONITE | 60. CYANOTRICHITE | 116. MOTTRAMITE |
| 5. ANALCIME | 61. DATOLITE | 117. NATROLITE |
| 6. ANATASE | 62. DESCLOIZITE | 118. OLIVENITE |
| 7. ANDRADITE | 63. DEVILLINE | 119. PARCELSIAN |
| 8. ANGLESITE | 64. DOLOMITE | 120. PARATACIMITE |
| 9. ANNABERGITE | 65. DUFRENITE | 121. PHARMACOSIDERITE |
| 10. ANTLERITE | 66. DUNDASITE | 122. PHENAKITE |
| 11. APATITE | 67. ELYITE | 123. PHOSGENITE |
| 12. ARAGONITE | 68. EPIDOTE | 124. PLUMBOGUMMITE |
| 13. ARSENOPYRITE | 69. ERIONITE | 125. POSNJAKITE |
| 14. ARTHURITE | 70. ERYTHRITE | 126. PREHNITE |
| 15. AUGITE | 71. ETTRINGITE | 127. PYRRHOTITE |
| 16. AXINITE | 72. FLUORITE | 128. QUARTZ |
| 17. AZURITE | 73. GALENA | 129. RHODOCHROSITE |
| 18. BARYTES | 74. GARRONITE | 130. RHODONITE |
| 19. BASSETITE | 75. GMELINITE | 131. RUTILE |
| 20. BEAVERITE | 76. GOLD | 132. SAPPHIRE |
| 21. BERTRANDITE | 77. GRAPHITE | 133. SCHEELITE |
| 22. BERYL | 78. GREENOCKITE | 134. SCHORL |
| 23. BEUDANTITE | 79. GROSSULAR | 135. SCORODITE |
| 24. BISMUTH | 80. GYPSUM | 136. SEMSEYITE |
| 25. BISMUTHINITE | 81. GYROLITE | 137. SERPIERITE |
| 26. BOLEITE | 82. HALITE | 138. SIDERITE |
| 27. BOTALLACKITE | 83. HARMOTOME | 139. SILVER |
| 28. BREWSTERITE | 84. HAEMATITE | 140. SPHALERITE |
| 29. BROCHANTITE | 85. HEMIMORPHITE | 141. STANNITE |
| 30. BROOKTITE | 86. HYDROCERUSSITE | 142. STIBNITE |
| 31. CALCITE | 87. HYDROZINCITE | 143. STILBITE |
| 32. CALEDONITE | 88. JAMESONITE | 144. STILPNOMELANE |
| 33. CARMINITE | 89. JAROSITE | 145. STOKESITE |
| 34. CASSITERITE | 90. KYANITE | 146. STOLZITE |
| 35. CELESTINE | 91. LANARKITE | 147. STRONTIANITE |
| 36. CERULEITE | 92. LANGITE | 148. SULPHUR |
| 37. CERUSSITE | 93. LANTHANITE | 149. SUSANNITE |
| 38. CHABAZITE | 94. LAUMONTITE | 150. TETRAHEDRITE |
| 39. CHALCOALUMINITE | 95. LEADHILLITE | 151. THEOPHRASTITE |
| 40. CHALCOCITE | 96. LEVYNE | 152. THOMSONITE |
| 41. CHALCOPHYLLITE | 97. LIBETHANITE | 153. TOPAZ |
| 42. CHALCOPYRITE | 98. LINARITE | 154. TURQUOISE |
| 43. CHALCOSIDERITE | 99. LIROCONITE | 155. VANADINITE |
| 44. CHALCOTRICHITE | 100. LISKEARDITE | 156. VARISCITE |
| 45. CHENEVIXITE | 101. LUDLAMITE | 157. VIVIANITE |
| 46. CHILDRENITE | 102. MAGNETITE | 158. WAVELLITE |
| 47. CHROMITE | 103. MALACHITE | 159. WEDDELLITE |
| 48. CHRYSOCOLLA | 104. MALAYITE | 160. WITHERITE |
| 49. CLINOCLASE | 105. MANGANITE | 161. WOLFRAMITE |
| 50. CONNELLITE | 106. MARCASITE | 162. WOODWARDITE |
| 51. CORKITE | 107. MATLOCKITE | 163. WROEWOLFEITE |
| 52. CORNWALLITE | 108. MENDIPITE | 164. WULFENITE |
| 53. COSALITE | 109. MESOLITE | 165. ZARATITE |
| 54. COVELLINE | 110. METAZEUNERITE | 166. ZEUNERITE |
| 55. COWLESITE | 111. MILLERITE | |
| 56. CREDNERITE | 112. MIMETITE | |

Finally, many thanks for your support, please select some good material, and lets lay the foundation stones for the future!

The welcoming address by Roy Starkey was brief and Max Wirth opened the proceedings with a well-illustrated talk on "The Polarising Microscope as an Identification Tool". He explained how the polarising microscope differed from the ordinary one mainly in the provision of using polarised light i.e. light vibrating in one direction only. Only a minute amount of material was required for testing and the properties which could be determined included colour, refractive index, pleochroism, cleavage, extinction, birefringence and twinning. These and other optical properties could be determined quickly and while the theory was very confusing, practical results were easy to obtain. The measurement of refractive index - the most diagnostic of all optical properties - was carried out by immersing grains of the mineral in a transparent liquid of known refractive index, and studying the movement of the Becke line as the microscope was raised and lowered. By careful selection of immersion liquids with varying refractive indices or comparison with the behaviour of known minerals, the refractive index of a specimen could be determined within narrow limits.

Mike Bayley spoke on "The Minerals of Greenhow Hill", an area some 15 miles north of Otley. This orefield had been worked since Roman times and since 1547 the mining rights had been held by the Yorke family. Mineralisation in the Merryfield area was in the upper 150ft. of limestone and consisted of barytes/galena veins with occasional pockets of strontianite. At the Coldstones quarry, which was practically worked out, there were fine fluorite crystals on galena, barytes on fluorite and occasional cerussite.

The dark, shadowy world of "Phantoms and Inclusions" was described by Peter Braithwaite in his slide-presentation which showed them in the growth of a crystal and sometimes became inclusions in as much as a different crystal became deposited on the faces. Inclusions were prevalent in transparent fluorite which often showed lines of chemical weakness allowing other minerals to work their way inside. The purple edges on fluorite were interesting and possibly contained manganese, while pyrite and marcasite inclusions were common in fluorite from the Millclose mine.

At the 1983 Symposium, Trevor Bridges spoke on "The Chemistry of Secondary Mineral Formation" and Saturday afternoon opened with a further talk on this subject. He explained the typical reactions in the zone of leaching in an oxidising orebody - how the pyrite could oxidise and release sulphuric acid and in this acid environment, the metallic orebodies would produce sulphates. If the orebody was in calcareous rocks these would tend to neutralise the acid and gypsum may be formed. Below the water table was the zone of supergene enrichment and starting with chalcopyrite, he explained how in an environment of increasing pH values, the minerals chalcantite, antlerite, brochantite and malachite might be formed and how the latter would be replaced by azurite if the system was enriched with carbon dioxide.

The rest of Saturday afternoon was taken up with the popular practical workshop and swap session. There were displays of Leadhills/Wanlockhead minerals to be admired as well as some fine Weardale material in hand-sized specimens. Michael Edwards was also able to attend to numerous questions about microscopes.

The annual photographic competition attracted thirty entries of a very high standard and after selecting six with the most votes, a further presentation resulted in the selection of the winning slide of elyite from the Meadowfoot Smelter, Wanlockhead by Kemp Meikle. An innovation this year was the auction of some 40 hand-sized specimens submitted by members. The bidding was brisk and £217 was raised, half of which went into Society funds. Thanks to auctioneer Roy Starkey, organisers Pam and John Pearce and other helpers.

On Sunday morning Nigel Hoppe gave a talk on "Infra-red Spectroscopy as an Aid to Mineral Identification". He said that while there was a bewildering array of equipment to analyse minerals, most of it was very expensive and required highly-trained staff to operate. He explained how the cheaper infra-red spectrometer could be used with a little training in sample preparation and access to a library of mineral spectra standards which were needed

to interpret results. He showed slides of the instrument (UNICAM SP1000 Infra-red Spectrometer) and how a sample about the size of a pinhead was prepared. This was finely ground in a small pestle and mortar (made of agate) and placed between discs which were free of blemishes and highly polished. The machine was then run and the distinctive spectrum diagram of the mineral was printed.

Mike Rothwell described the localities of "The Minerals of the North Wales Coast" starting with the Halkyn Mountain area which had been the most important lead-mining area in Wales. In the Pant quarry there was galena and sphalerite (excellent "ruby blende) some blue fluorite and calcite crystals. At the foot of Graig Fawr was the "Coke Hole" which had yielded smithsonite, and the tips of the Talargoch mine which were now under a caravan site. Proceeding towards Dysarth there was evidence of more iron and the large quarry overlooking the village had travertine and orange calcite. At Rhualt, near St Asaph was the Pennant mine with witherite in overgrown tips, which further west on Llandudno's Great Orme were extensive tips yielding fine chalcopyrite crystals as well as malachite and azurite on dolomite. There was a small tip belonging to an old antimony mine at Booth's Farm, Deganwy while on top of Penmaenmawr was a quarry providing apidote and axinite.

David Ifold reported on progress with the Society's Lead Minerals Project and produced an extensive bibliography on the subject. Members endorsed the plans to publish this work and promised financial support.

Michael Edwards dealt with many aspects of microscope applications, especially in the field of photomicrography. He said that he could provide low power "photocular which could be adapted to most microscopes and provide distortion-free images without restricting the light. He discussed problems of cameras fitted with fresnel screens, the reduction of specular reflections and the use of discs with minute holes in the centre which could improve results and depth of field. He explained various lighting systems which could be supplied, as well as polarising filters for most hand microscopes and cut sheet polaroid for DIY construction. A good range of second-hand microscopes was also available from Hampshire Micro, 3 Southlea, Cliddesden, Basingstoke, Hampshire RG25N 2JN.

After lunch there was a further opportunity to discuss members' interests informally and to swap material, although a good number joined the discussion on "Wanlockhead Slag Minerals" lead by Eric Otty. The questions which had been raised at the 1983 Symposium were shown by John Hall and John Pearce were reviewed and some 40 slides of slag minerals were shown by John Hall and Kemp Meikle. While some could be identified, many mysteries remained. Whatever views were held about "Man's contribution" to the slag minerals, there was no doubt about their beauty which was so admirably presented.

At the end of the Symposium thanks were expressed to Roy Starkey who had occupied the Chair throughout with good humour. Also to Mary Starkey who had provided a constant flow of refreshment, and to all who helped to organise and contribute to a most enjoyable and successful week-end.

NEW BRITISH MINERAL

John Fisk is offering for sale specimens of shattuckite, from a new find in Cornwall. The mineral forms microscopic balls of acicular turquoise-blue crystals on kyllas/quartz matrix. Specimens are available from micros to hand-sized specimens. Approximate price - micro £1.50 - 1" x 1½" £8.75 according to size and quality. If you are interested contact J Fisk, Mineral World, 1 Old Brewery Yard, Falmouth, Cornwall Tel. 319441 or 16 North Street, Redruth, Cornwall Tel. 213338.

BRITISH MICRO LOCALITIES
by KEITH SNELL

No. 9

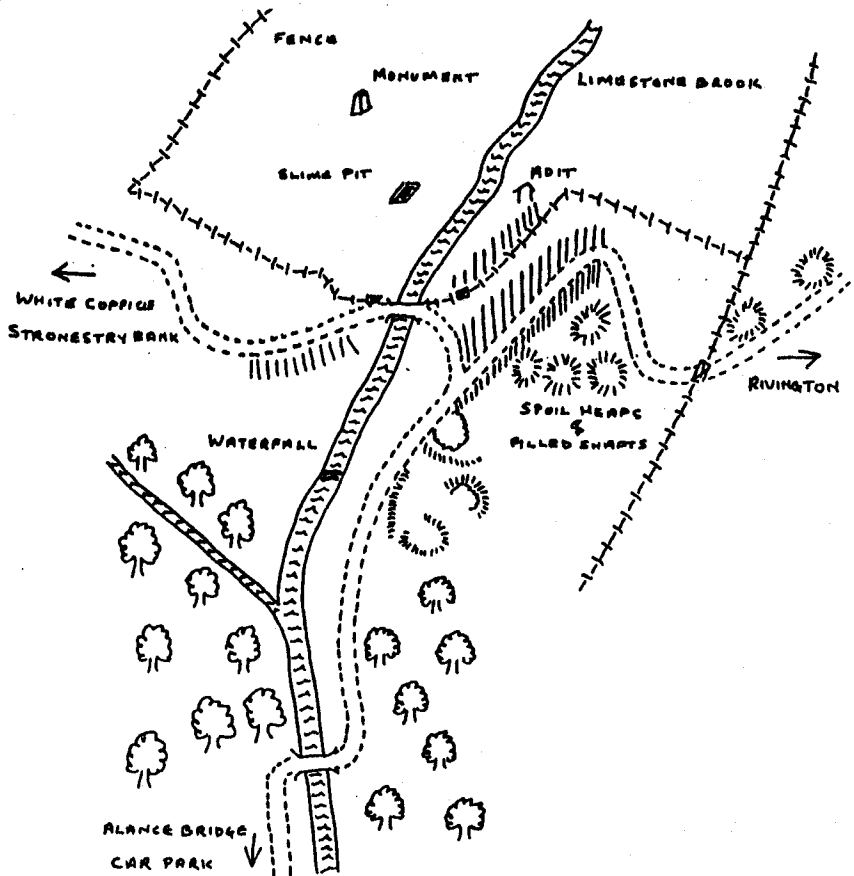
The Anglezarke Lead Mines
near Chorley, Lancashire

These mines are in three main groups - Lead Mines Clough (630164) Stronestry Bank (619184) and White Coppice (614191). They lie on an offshoot of the western Pennines known as

Anglezarke Moor, situated about 4 miles SE of Chorley and midway between Blackburn and Bolton.

The most important group are at Lead Mines Clough. The earliest record of mining in this area dates back to 1692. From this time the mines worked intermittently reaching a peak in 1780 when they had a sustained working period of about nine years. They were abandoned and never opened again. The principal ores, galena and sphalerite were distributed randomly through the veins in irregular masses. The high parts of the veins carried witherite but this was progressively replaced by barytes, until at the lower levels this became the predominant gangue material. Other minerals recorded from this site include chalcopryrite, bornite, malachite, pyrites, cerussite, anglesite, smithsonite, hemimorphite, limonite and calcite. With the exception of barytes, witherite and sphalerite, the others are quite sparse.

The area is also of interest in that it was from Stonestrey Bank, a quarter of a mile NW of Lead Mines Clough, that Dr Withering obtained samples and later published the chemical and physical properties of a mineral, which came to be called witherite in his honour. Well-formed crystals of this mineral can be obtained from the massive vuggy material plentiful on the dumps and around the shafts. Other minerals such as well-crystallised sphalerite and chalcopryrite also occur in these vugs. Others yet to be identified, both crystalline and botryoidal also occur which make unusual and attractive micromounts. However, the star attraction is the barytes, beautifully crystallised in a variety of forms which make excellent micromounts. Many of the barytes are strongly fluorescent and phosphorescent.



Braefell mine lies on the west side of Roughtongill Beck, about a quarter mile south of the Smelt Mill. It is on a fairly steep hillside and can be easily ignored by those collectors heading for the Roughtongill mines. There are two dumps, which on first appearance appear to be barren of minerals but diligent search can be rewarding and I have collected a wide variety of micros from this location. The minerals which can be found at Braefell mine are:-

Anglesite	- occurs as rare blocky crystals in cavities in galena
Barytes	- crystals thin to thick tabular in cavities in quartz
Caledonite	- occurs as very rare and extremely minute crystals
Cerussite	- occurs in a variety of crystal shapes
Chalcopyrite	- found sparingly as crystals sparsely scattered in quartz
Chrysocolla	- occasionally found as light-blue alteration product of malachite
Covellite	- normally dark blue to purple crystalline masses coating galena, but also as extremely rare thin hexagonal plates
Cuprite	- found only rarely as red crystalline masses surrounded by chrysocolla
Galena	- found as massive cleavage blocks. Small individual octahedral crystals can be found sparsely scattered in quartz
Goethite	- occurs as yellow to brown coatings
Hydrocerussite	- identified by A J Kingsbury. Not aware of any other finds
Lanarkite	- -do-
Leadhillite	- occurs as rare pearly crystals in cavities in quartz
Linarite	- occurs as blue coatings and individual crystals on galena
Malachite	- occurs infrequently as acicular crystals
Pyromorphite	- readily found as small crystals varying in colour from bright-yellow to dark green
Quartz	- is the primary gangue material and is found abundantly as white crystalline masses. Small crystals can also be found.
Sphalerite	- occurs very rarely as small light-brown crystals
Sulphur	- found on weathered galena as pale-yellow crystalline masses.

I have two finds still to be identified and in addition I would expect that it should also be possible to find hemimorphite and hydrozincite.

COMMERCIAL DEVELOPMENTS AT STRONTIAN

ERIC OTTY

After a gap of eighty years, commercial operations have been resumed at Strontian, Argyll, and some 63 people are now engaged in producing barytes for North Sea drilling as well as lead/silver/zinc concentrates. Three working faces have been established in open-cut operations and this system will continue for about another year when the whole operation will be transferred underground. A drift will reach from near the ore stockpile to the lowest 140 metre level and the ore will be fed to the processing plant which is already working at about 75% capacity. Three grades of barytes are available with minimum S.G. of 4.2, 4.35 and 4.45 while the lead/silver/zinc concentrates are being sent to the RTZ smelter at Avonmouth. A considerable amount of by-product granitic-gravel is being sold locally as aggregate for the construction industry.

Mineralisation is associated with a west-north-west shear zone located on the northern edge of the Strontian granite complex. The orebody comprises a series of lenticular masses of barytes, calcite and quartz along with the sulphide minerals of sphalerite and argentiferous galena. These constituents also occur as discrete veins ramifying through a fracture zone and form the matrix of the mineralised breccia. A feature of the orebody is that, whilst the barytes occur throughout, the sulphides become enriched with depth and as such will make up a greater proportion of the mine revenue as exploitation develops.

The element Strontium and the mineral strontianite were, of course, named after this locality where they were discovered and other minerals of interest here are brewsterite and harmotome.

("Industrial Minerals")
October 1984

MAP REFERENCES

MAX WORTH

At Leicester, I showed a little computer programme giving Scottish mineral locations within any given radius or where a particular mineral has been recorded. I would like to write a similar programme for English, Welsh or Cornish locations but restricted to unusual minerals and micromount style. I would be pleased if anyone having useful information would send me:-

- 1 Map reference
- 2 Name of location
- 3 Principal minerals of interest (not more than five)

The grid reference should be the full 8-digit number (easting first) or the 6-digit number together with the letters (e.g. SE, SX etc.). The relationship is shown on the inside cover of most inch/mile maps and the first digits are always shown at each of the four corners of the map; the map number is irrelevant. The data collected will be freely available to any member on request and will remain the property of the BMS as I will certainly not publish it. My address is: Parley Hill, Culross, Fife KY12 8JD.

INDUSTRIAL NEWS

ERIC OTTY

South Crofty Plc are deepening their mine near Cambourne and have increased the capacity of their mill which produced 400 tonnes tin-in-concentrates in the first quarter of 1984. About 10% of this came from their Wheal Pendarves mine where reserves are running low and the company have announced that production is likely to cease soon. The min installations will be maintained to an extent dependant on the result of a new exploration programme of underground and surface drilling. Meanwhile, after being in the hands of the liquidator for over a year, Wheal Concord has been acquired by an international group who are to build a mill at the Blackwater site while exploration and development work are carried out at the mine. On start up, Wheal Concord is expected to process about 20,000 tonnes per annum of ore and build up to 250,000 tonnes. The tin mines of Cornwall are among the highest-cost producers in the world and it is unlikely that they would be able to continue production were it not for the support given to the tin price by the International Tin Council Buffer Stock and the fact that the UK is not a producing member of the Agreement, they are not bound by the export quotas which affect major producers.

Geever Tin Mines have applied for planning permission to prospect for minerals in the alluvial deposits in the Hayle River area of West Cornwall.

(Tin International)

Out of a production of 81,000 tonnes of barytes produced in the UK in 1982, some 62,000 tonnes were supplied to the offshore drilling industry and 19,000 tonnes were supplied as a filler in the paints, rubber and plastic industries and for use in the radiation shield industry. Barytes is an excellent concrete aggregate for use in reactor shields and particularly where space is a consideration, special high-density concretes can reduce the width of the shield. Net volumetric weight of barytes concrete is about 50% higher than ordinary concrete and is an effective shield for gamma radiation. The main producers for filler and radiation aggregates are Fordamin's mine at Closehouse, Middleton-in-Teesdale, Horace Taylor (Minerals) Ltd Silverband Mine, Knock, Cumbria and the Laporte Industries' Glebe mine in Derbyshire. This market is also supplied with imported white barytes grades mainly from France and China.

(Industrial Minerals)

SYGUN MINE PROJECT

Early this year, the owner of the old Sygun copper mine (606486) near Beddgelert applied for planning permission to turn the mine buildings into a museum and having drained the lower levels, open the mine to the public. The application was turned down by the Planning Authority mainly on grounds of traffic, parking and advertising and the view that such a venture would be "seriously detrimental to the rural atmosphere of the Gwynant Valley". The mine is of considerable interest and the underground formations are being investigated by several universities. After experimenting at Glasdir copper mine, near Dolgellau, Frank Elmore patented the flotation process for dealing with sulphide ores in 1898 and incorporated four units in a new mill built at Sygun, and so this site is also of interest to industrial archeologist. Support for the project is coming from many directions and the Welsh Office have agreed to a public hearing fixed for 15 January 1985. Anyone who wishes to support the appeal should write to The Secretary, Welsh Office, Cathays Park, Cardiff quoting reference No. 01169 - Sygun Copper Mine Appeal.

Note: The history of this mine, then called the Sygun mine, is dealt with in some detail in David Bick's "The Old Copper Mines of Snowdonia". The above information is condensed from "The Great Outdoors" November 1984.

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FOR YOUR DIARY

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| 1 December 1984 | Annual bazaar of the Amateur Geological Society at St Albans Church Hall, West Heath Drive, Golders Green NW11 (opposite Golders Green Hippodrome). 11.15am to 3.30pm. |
| 8 December 1984 | Gem Fair of the Warrington Mineral and Lapidary Society at the Parr Hall, Warrington. |
| 20/21 April 1985 | 5th British Mineral and Gem Show, Holiday Inn, Swiss Cottage, London. |
| 5/7 May 1985 | BMS Field Trip to the Tamar Valley area of Devon. |
| 28/29 September 1985 | BMS Symposium at Leicester University. |

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DIRECTORY AMENDMENTS

Mrs Jean Spence has moved to 3 Oak Tree Road, Bawtry, Doncaster DS10 6LD
(telephone 0302 710244)

The following entries were inadvertently omitted from the directory:-

Steve Rust, 14 Whitebroom Road, Hemel Hempstead, Herts H81 3PU (0442 66967)
John Dickinson, 35 Hayton Parkway, Gayton, Wirral, Merseyside L60 3SY (051 342-262)
Ron Bratt, 145 Kylemore Drive, Heswall, Wirral, Cheshire.

New Members:-

Mrs Cynthia Peat
c/o 105 Wilson Avenue
Deal, Kent
CT14 9NJ

U/g and surface, no specialist area or group, 24 years; 15 years;
2400; Leitz binocular, Bausch and Lomb, Postal Exchanges;
BMCA, CMMA, Walker Mineralogical Club.

Mr Martin Pruden
19 Oakleigh Gardens
Orpington, Kent
BR6 9PZ
Tele: Farnborough 56095

U/g and surface, no specialist area or group, 15 years; just
starting m/m; Collins binocular, Sidcup Mineral and Lapidary
Society.

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The notes which Roy handed to me after Leicester have all been incorporated in this issue of the newsletter. The writing-machine can now cool down as the empty file awaits further contributions. I would particularly like to hear from those members who have not managed to attend our twice-yearly meetings as the newsletter is our only contact - what are you up to out there? Members hints and tips on mounting and organising their collections will be welcome and, of course, notes on localities which have been found interesting and details of mineral finds.

DON'T FORGET TO SEND YOUR 1985 SUBSCRIPTIONS (£3.00 individuals and £4.50 family members) DIRECT TO NEIL HUBBARD, 122 CORDERY ROAD, EVINGTON, LEICESTER LE5 6DF.....THEY ARE DUE 1 JANUARY 1985.

Seasonal Greetings to All.....Keep smiling

BRITISH MICROMOUNT SOCIETY
NEWSLETTER EDITOR

Eric Otty, 6 Woodlands Road, Pownall Park,
WILMSLOW, CHESHIRE SK9 5QB

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